



3017M Quick Start Guide

DPD CHLORINE ANALYZER

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What's Included?

Item	Part #	Qty.
3017M Chlorine Analyzer	332266	1
Sample Inlet Device	327114	1
Sample Pump Tube*	332405	1
Reagent Pump Tubes*	332268	2
Silicone Lubricant*	331121	1
Reagent Bottle Cap Assembly*	332270	2
1/2" ID Drain Tube	327112	1
1/8" OD Sample Inlet Tube	147901	1
3017M Operators Manual	332100	1
Kit - Total Chlorine Reagent or Kit - Free Chlorine Reagent	330006 330007	1
Reagent Mixing Instructions*	YSI Publication XA00107	1

*Installed on the 3017M

Inspection

Remove the analyzer and Sample Inlet Device from the shipment boxes. Inspect the shipment for any damage or missing parts. Contact YSI Customer Support immediately to report any damage or discrepancies with the shipment. Any questions should be directed to YSI Customer Support at (800) 765-4974 or (937) 767-7241.

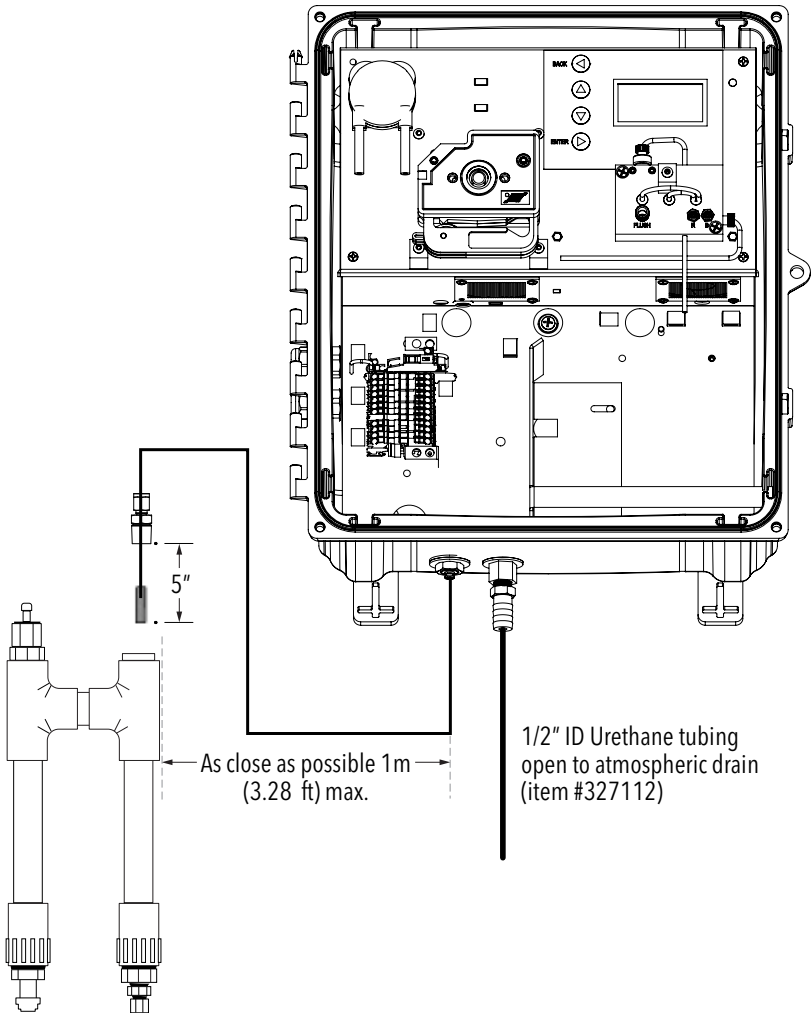
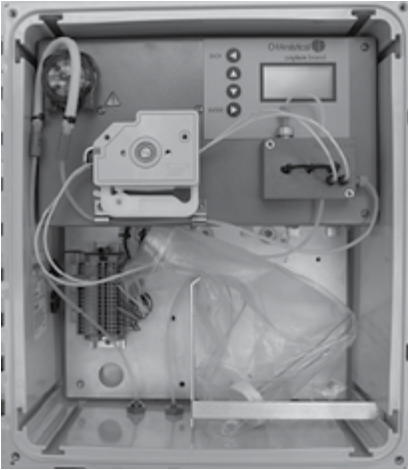


Figure 1: YSI 3017M DPD Chlorine Analyzer and Sample Inlet Device shown in the recommended installation configuration.



NOTE: Do not apply power unit until **all** of the following steps have been completed.

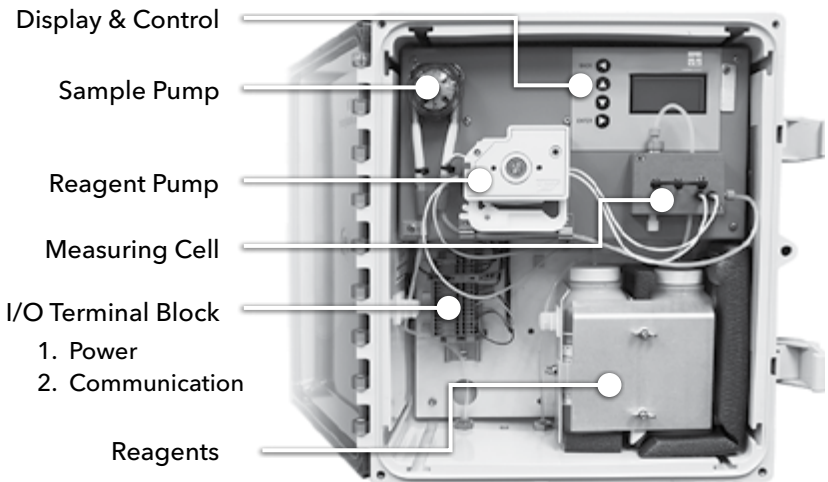
The 3017M was shipped from the factory as shown in Figure 2. It will be necessary to attach the mounting tabs, mount the analyzer, mix the reagents, position the sample pump tube, tension the reagent pump tubes and connect the analyzer to the sample.



Materials Required

- #1 Phillips screwdriver
- 1/16" (or smaller) flat-head screwdriver
- 3/8" drive ratchet
- 7/16" socket
- 7/16" wrench
- Scissors
- Rag or paper towels

Figure 2: The 3017M as it was shipped from the factory



Mounting Instructions

1. Attach the enclosure's 4 mounting tabs to the back of the 3017M using the flat head screws in the hardware kit.
2. Mount the 3017M in the desired location with user supplied mounting hardware.
3. Install the Sample Inlet Device in its designated location (if applicable). Below and to the left of the analyzer is an ideal position. See **Figure 1**.
4. Power and RS 485/4 to 20 mA connections are made through the cable glands that are supplied with the analyzer. The cable glands can be found on the left-hand side of the analyzer.
5. Wire the main power and any other signal or alarm connections.
6. The terminal block connectors are opened by pushing the 1/16" screwdriver into the small, square opening adjacent to the opening for the wire. See **Figure 3**.

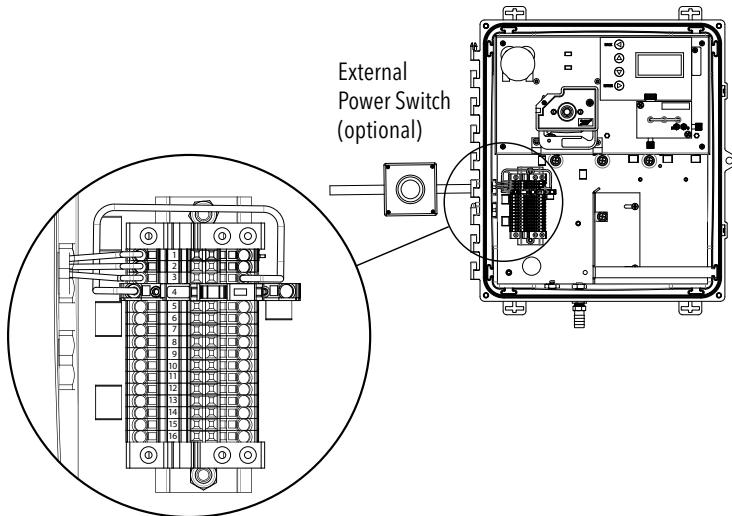


Figure 3: 3017M terminal block and external power switch
(Wiring reference table on next page)

Mounting Instructions, cont'd

Position	Connection/Purpose	Wire Color
1	AC Earth	Green/Green Yellow
2	AC Neutral (Line 2)	White/Blue
3	AC Line (Line 1)	Black/Brown
4	Fusible Link (0.5A)	Brown
5	RS 485-A	White
6	RS 485-B	Grey
7	RS 485 RTN	Purple
8	4-20 mA (-)	Blue
9	4-20 mA (+)	Green
10	ALARM1 (NC)	Yellow
11	ALARM1 (COM)	Orange
12	ALARM1 (NO)	Red
13	ALARM2 (NC)	Brown
14	ALARM2 (COM)	Black
15	ALARM2 (NO)	Pink
16	SPARE	---

6. Attach the 1/2" ID drain tube to the barb fitting on the bottom of the analyzer. Refer to **Figure 4**.
7. Attach the 1/8" OD tubing to the sample inlet fitting (quick connect) on the bottom of the analyzer and connect the other end to the Sample Inlet Device or any other sample spot.

Mounting Instructions, cont'd

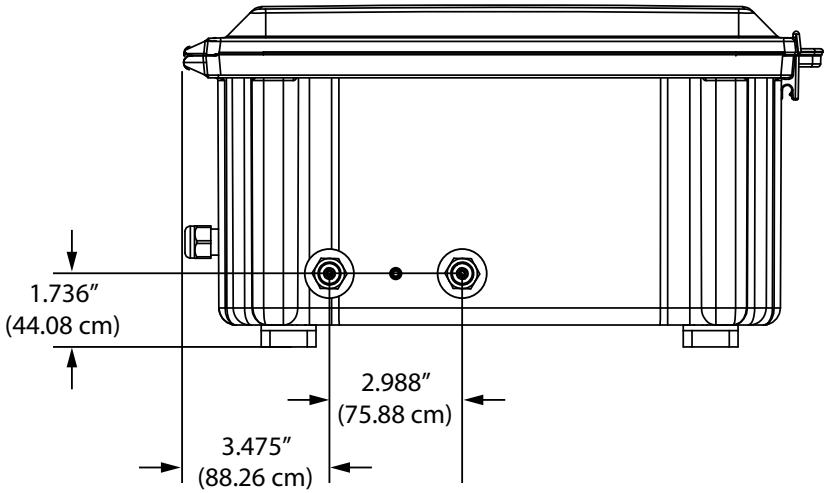


Figure 4: 3017M plumbing connections, bottom view

Reagent Preparation

1. Refer to YSI Publications XA00107 for preparation of the reagents.
2. Install a reagent bottle cap assembly (item #332270) to the reagent containers.
3. Place the **indicator** reagent on the **right-hand side** of the enclosure (closest to the wall of the enclosure).
4. Place the **buffer** next to it (**left-hand side**). Refer to Figure 5.

NOTE: Only high purity, chlorine-free water should be used for the reagents. Deionized (DI) water, at a minimum, is acceptable.

Sample Pump Tube Installation

1. Refer to **Figure 5**.
2. Remove the cover from the sample pump by gently pulling on the bottom of the pump cover.
3. Position the tube so that the barb fittings on each end are even. They will be adjusted in a later step.
4. Locate the package of silicone grease and cut a small opening across one corner of the package.
5. Apply a thin layer of the silicone grease to the section of the tube that will mount on the roller in the pump. A small bead of approximately 3 mm in diameter should be sufficient. Spread the grease along the section of the tube that will contact the pump tube rollers. Do not apply the grease in excess. There is sufficient grease in the startup kit for multiple pump tube installations. Remove any excess with a rag or paper towel.
6. Hold the pump tube over the roller, and gently push the roller onto the drive shaft of the pump motor.
7. Refer to **Figure 6**.
8. Snap the cover into place so that the roller stays in place.
9. Gently position the sample pump to remove slack on each tube.



Figure 5: Sample pump shown with cover off



Figure 6: Completed pump tube installation

Reagent Tube Installation

1. Refer to **Figure 7**.
2. Tension the reagent pump tubes by depressing the tensioning lever downward three "clicks".
3. This completes the installation of the reagent pump tubes.

NOTE: Do not overtighten the reagent pump tubes. This will lead to permanent failure.

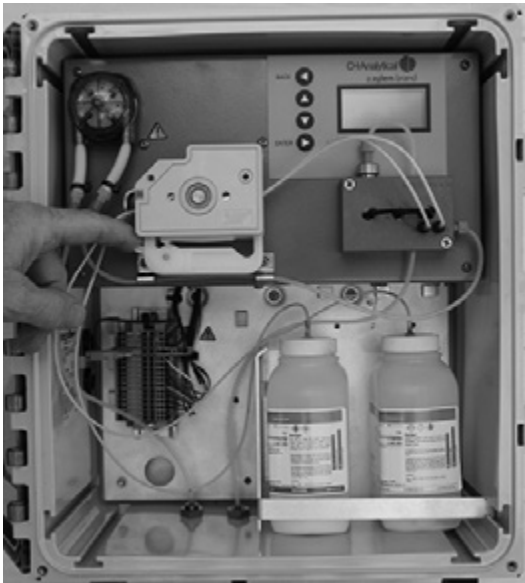
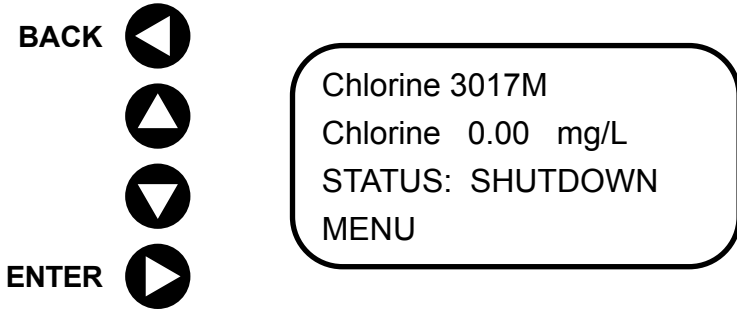


Figure 7: Tension lever - complete reagent pump tube installation

Startup and Operation

1. Ensure that the main power and the desired aqueous sample are available to the instrument.
2. Close the fusible link on the terminal block.
3. The analyzer will power ON and initiate a self-test. Once the self-test is completed, the analyzer will come to SHUTDOWN mode. Power is not removed from the analyzer.




4. Using the UP or DOWN button, navigate to the PRIME function and press ENTER.
5. The sample pump and reagent pump will turn at a higher than normal speed to fill the sample and reagent lines with liquid.
6. Observe the outlet (waste) line of the measuring cell.
7. If chlorine is present in the water, the water at the outlet of the measuring cell should turn pink when the sample and reagents begin to mix in the flowcell.
8. When no bubbles are present at the outlet of the measuring cell, the lines are fully primed with liquid.
9. Using the UP or DOWN button, select STANDBY and ENTER.
10. When you are ready for routine sample analysis, select STARTUP and ENTER.

Startup and Operation, cont'd

11. The STARTUP sequence consists of the following steps and will take several minutes:
 1. **PRIME:** The sample and reagent pumps turn at a higher than normal speed to fill the sample and reagent tubes.
 2. **RINSE:** The reagent pump will stop and the sample pump will continue to turn and rinse the measuring cell with sample that is free of reagent. This is necessary to adjust the GAIN and record the zero baseline reading.
 3. **AUTOGAIN SET:** The 3017M firmware and electronics set the GAIN setting for the zero baseline reading.
 4. **RUN:** The 3017M starts the normal analysis cycle.
 12. The analyzer should cycle for 15 - 20 minutes (6 - 8 cycles) before making comparisons with reference methods and adjusting the analyzer output.
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For more information, visit **[YSI.com/3017M](https://www.ysi.com/3017M)**

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